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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,430	03/07/2002	Shmuel Cabilly	P-3694-US	9454
27130	7590	01/25/2005	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			BARTON, JEFFREY THOMAS	
			ART UNIT	PAPER NUMBER

1753

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/091,430

Applicant(s)

CABILLY ET AL.

Examiner

Jeffrey T. Barton

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 73-92 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 73-92 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20041109</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment of 18 November 2004 does not place the application in condition for allowance.

### ***Status of the Objections and Rejections Pending Since the Office Action of 20 May 2004***

2. The objection to the drawings is withdrawn due to applicants' amendment.
3. All objections and rejections of claims 1-72 are obviated due to cancellation of the claims.

### ***Claim Rejections - 35 USC § 102***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 73-76, 80, 82-86, 90, and 92 are rejected under 35 U.S.C. 102(b) as being anticipated by Cabilly et al. (WO 97/41070)

Regarding claims 73 and 83, Cabilly et al disclose an electrophoresis apparatus and methods for its use, comprising: a body of separating gel (Figure 4, gel 18); a cathode electrically coupled to a first end of the gel (Figure 4, cathode 26); an anode comprising an electrochemically ionizable metal (Figure 4, anode 24; Page 8, lines 13-

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18), said anode being disposed in a semi-solid ion reservoir containing a buffer (e.g. Figure 6 - anode 23 is partially covered by matrix 20; Page 14, lines 4-20 - a gel immersed in buffer solution can be characterized as "semi-solid"), said semi-solid ion reservoir being disposed at a second end of the gel body (Figure 4) and electrically coupled to the gel body (Page 12, lines 11-15), said ion reservoir and buffer being configured for retarding the migration of ions of the electrochemically ionizable metal in the gel body during electrophoresis. (Page 8, lines 19-21; Page 12, lines 22-36)

Regarding claims 74 and 84, Cabilly et al disclose the electrodes, gel body, and ion reservoirs being disposed in a substantially closed cassette. (Figures 3 and 4)

Regarding claims 75, 76, 85, and 86, Cabilly et al disclose copper electrodes. (Page 8, lines 17-18 and 27-29)

Regarding claims 80 and 90, Cabilly et al disclose polyacrylamide and agarose gel bodies. (Page 11, lines 22-24)

Regarding claims 82 and 92, Cabilly et al disclose the gel body comprising sample wells. (Page 13, lines 4-6)

### ***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 77-79 and 87-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cabilly et al in view of Monthony et al.

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Cabilly et al disclose devices and methods as described above in addressing claims 73 and 83. Cabilly et al also suggest flexibility of choice in buffer solutions.

(Page 12, lines 11-15 - TAE is a preferred example)

Monthony et al disclose the use of a buffer comprising tris and glycine, which are an amine and (at proper pH) a zwitterion, respectively (Column 4, Table below line 57), in performing gel electrophoresis. The  $pK_a$ s of these compounds differ by about 1.5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the devices and methods of Cabilly et al by replacing their buffer with a tris-glycine buffer, as taught by Monthony et al, because a skilled artisan would be able to select from among known buffer systems to choose one suitable for a specific analytical problem.

8. Claims 81 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cabilly et al.

Cabilly et al disclose devices and methods as described above in addressing claims 73 and 83. Additionally, Cabilly et al disclose successfully using their system for electrophoretic separation. (Pages 25, lines 19-27)

Cabilly et al do not explicitly disclose the ion migration not exceeding the limits of the ion reservoir.

However, it would be obvious to one having ordinary skill in the art at the time the invention was made to select a sample, buffer system, concentrations, voltages, etc.

such that the capacity of the ion reservoir was sufficient for the required analyte migration. This would be necessary for successful system operation.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey Barton, whose telephone number is (571) 272-1307. The examiner can normally be reached Monday-Friday from 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached at (571) 272-1342. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

JTB  
January 14, 2005



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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700